

LISTings

Newsletter of the Long Island Sinclair / Timex Users' Group

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Note the following LIST meeting dates for 1998

February	-8	Tom Skapinski, 7 Atkinson La., Coram NY	-Tel 516-732-1825
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April	-9	Bob Malloy, 412 Pacific St, Massapequa Pk, NY	-Tel 516-541-6731
May	-17	Tom Skapinski, 7 Atkinson La., Coram NY	-Tel 516-732-1825
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November	-8	Bob Gilder, 69 Jefferson Pl, Massapequa NY	-Tel 516-541-2271
December	-13	Bob Malloy, 412 Pacific St, Massapequa PK, NY	-Tel 516-541-6731

No meetings for July and August 1998

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ZX81 to TS2068 Data Transfer

By Robert D. Hartung

Many of us who now have TS-2068s and other computers are not about to discard our little ZX81, TS-1000, 1500s or even the ZX80s that started it all for us and a lot of other people around the world. Its miniature size that made it the object of scorn by its critics, along with its unsophisticated requirements for power, display, and data recording, make it easily adaptable to portable use. Add a battery-pack of four Gates D-size gel cells (three will work without a RAM pack) and an AC/DC portable TV found in many homes, and you are in business.

Data storage and transfer is one of the principal reasons for using a portable computer. David Ornstein's software program for translating from the ZX81 to the TS2068, first published in SYNTAX newsletter and still available as UPLOAD 2000 from E-Z KEY Suite 75A, 711 Southern Artery, Quincy, MA 02169, will allow any ZX81 BASIC listing saved to tape to be read into a TS2068. However, it does not translate data stored in variables. Let's look at a way around this problem which stores data as translatable characters in a REM statement.

First, here is a ZX81 listing I designed for my brother who is a school teacher. It allows him to store daily grades and test scores of students by using his ZX81 at school and then he may translate them into his TS2068 master file at home. Since the range of all numeric items to be stored is 0-100, two-digit hex is used, which allows a maximum decimal range of 0-255. (Not all character-codes translate between the computers so decimal values cannot be poked directly into the REM as single bytes.)

A REM statement of 22 lines of characters such as periods (fullstops for our British cousins) will provide for 347 items of data in two-digit hex. Later on we will look at a routine for expanding a REM statement as the data is poked in

but in FAST mode this REM may be keyed in directly without too much strain or pain. Before going on with the listing, however, it is a good idea to make a SAVE of it, unless you enjoy playing Russian roulette with a wobbly RAM pack! To save the completed listing or to start all-new data, use RUN. Data may be added on after a save or after loading a previous save.

```

1 REM Twenty-two lines of any
character such as.....
5 REM N=NAMECODE; G=GRADE
R=RELOCATION
10 PRINT "ENTER GRADES: 0 TO
100 -1 TO -20 FOR ERRO
R BACK-STEP -100 FOR STOP AND
SAVE"
20 LET N=1
30 LET R=16514
40 SCROLL
50 PRINT N;TAB 4;"=" ";
60 INPUT G
62 IF G>=0 THEN GOTO 80
64 IF G<-20 THEN GOTO 200
66 LET N=N+G
68 LET R=R+G*2
70 GOTO 40
80 POKE R,(INT (G/16))+28
90 POKE R+1,(G-(INT (G/16))*16)
)+28
100 PRINT G
110 LET R=R+2
120 LET N=N+1
130 IF N>347 THEN STOP
140 GOTO 40
200 POKE R,44
210 SCROLL
220 PRINT "START RECORDER, THEN
KEY ENTER"
230 INPUT A$
240 POKE 16389,0
250 CLS
260 SAVE "GRADES"
270 POKE 16389,117
280 GOTO 40

```

After all data entries are completed, everything except the REM could be deleted for the save to tape, but I find it easier to just collapse the display file (line 240), save everything, and then do a block DELETE after the translation is

made to the TS 2068. In fact, by properly numbering the lines for the 2068 listing you MERGE with it for interpreting and filing the hex data, the ZX81 listing except the line 1 REM may be completely overwritten. CLEAR 65367 should be used before the MERGE if you need the memory space occupied by UPLOAD 2000.

Line 5 in the following demo listing finds the 2068 address for the beginning of the REM data, and lines 10-70 convert it to decimal notation to do with as you wish.

```

1 REM 646463626160595800G
5 LET x=PEEK 23635+PEEK 23636
*256+5
10 PRINT "FILE GRADE"
20 FOR n=1 TO 347
30 IF PEEK x=71 THEN PRINT "En
d of data": STOP
40 LET dec=((PEEK x)-48-7*(PEE
K x>57))*16+(PEEK (x+1)-48-7*(PE
EK (x+1)>57))
50 PRINT TAB 3-LEN STR$ n;n;TA
B 10-LEN STR$ dec;dec
60 LET x=x+2
70 NEXT n

```

Now let's look at something a bit more elegant. Suppose we need to store and translate alphanumeric data or text. Obviously, we don't always think or write in two-digit hex and not all entry items will be of equal length, so we use a routine that expands the REM as data is added, with quotes and commas inserted to mark off each data item. All we need to do then after a translation into the 2068 is find the location of the byte that defines this as a REM statement, POKE this address to character-code 228 and, viola! - we have a string DATA line to do with as we please.

We need to call the MAKE-SPACE routine in the ZX81 ROM to expand our data REM with each entry. In a line 1 REM we create the 9 byte routine to do this as follows (the first two bytes store temporary information used by the other seven):

Food for Your TS-2068

Depreciation Program for the 2068

This month I have another useful business application program for the T/S 2068. The program solves depreciation problems by several methods of calculation. The following depreciation methods are provided:

- (1) Straight-line
- (2) Sum-of-years' digits
- (3) Double-declining-balance with crossover to straight-line

There is also an option for comparing all three methods at once.

To use this program, just enter the original cost of the asset, its salvage value, and its useful life (in years). The computer will then output a complete schedule, showing the depreciation and net book value for each year. The double-declining-balance method would be best to use in times of high inflation, as it depreciates the most during the first few years, giving you a better tax break. or, when the money supply is low, the straight-line method of depreciation may be more advantageous. Option #4 may be used to compare the various schemes and help you select the best one.

I hope you enjoy this simple, but important program for your computers. If you have any questions, suggestions or comments please make them to me at:

```

10 DEF FN a(x)=INT (k*x+0.5)/k
14 DEF FN a$(x,c$)=c$+("00" A
ND x=INT x)+("0" AND ("0"+c$) (LE
N c$)="")
16 BORDER 5: PAPER 3: LET k=10
0: CLS : BEEP 0.07,22: GO TO 50
20 LET y=FN a(y): LET c$=FN a$
(y,STR$ y): RETURN
25 LET d=(c-s)/l: RETURN
30 LET d=2*(c-s)*(l+1-z)/(l*(l
+1)): RETURN
35 IF z<t THEN LET d=2*(c-s)/l
*(1-2/l)^(z-1): RETURN
38 LET d=((c-s)*(1-2/l)^(t-1))
/(l-t+1): RETURN
50 PRINT PAPER 6;AT 2,2;" Depr
eciation Calculations "; PAPER 7
;AT 6,11;" Options ";AT 8,7;"1.
Straight-Line ";AT 9,7;"2. Sum
-of-Years ";AT 10,7;"3. Doubl
e-Declining";AT 11,7;"4. Compare
methods
52 INPUT ; PAPER 7; FLASH 1;"E
nter option (1-4): ";x
54 LET x=INT x: IF (x<1)+(x>4)
THEN BEEP 1,-20: GO TO 52
56 PAPER 7: PRINT PAPER 6;AT 7
+x,4;">>": PAUSE 100: CLS
60 IF x=1 THEN PRINT PAPER 6;"
1. Straight-Line Depreciation "
62 IF x=2 THEN PRINT PAPER 6;"

```

Imre Auersbacher

```

2. Sum-of-Years Digits Method "
64 IF x=3 THEN PRINT PAPER 6;"
3. Double-Declining-Balance "
66 IF x=4 THEN PRINT PAPER 6;"
4. Comparison of all methods "
70 PRINT : PRINT "Original Cos
t: "; INPUT c: PRINT c
72 PRINT "Salvage Value: "; I
NPUT s: PRINT s: IF (s>=c)+(s<0)
THEN BEEP 1,-20: CLS : GO TO 60
74 PRINT "Lifetime (yr): "; I
NPUT l: LET l=ABS l: PRINT l
76 IF x=4 THEN GO TO 120
80 PRINT : PRINT "Year Deprec
iation Book Value ": PRINT "

```

```

90 LET t=INT ((l+1)/2)+1: LET
b=c: FOR z=1 TO l: GO SUB 20+5*x
95 LET b=b-d: LET y=d: GO SUB
20: LET d$=c$: LET y=b: GO SUB 2
0: LET b$=c$: PRINT TAB 2;z)
100 PRINT TAB 15-LEN d$;d$;TAB
29-LEN b$;b$: NEXT z: STOP :
120 PRINT : PRINT "Yr";TAB 4;"S
traight";TAB 14;"Sum-of";TAB 23;
"Double-"; PRINT "#";TAB 5;"-Lin
e";TAB 14;"-Years";TAB 23;"Decli
ning": PRINT "

```

```

130 LET t=INT ((l+1)/2)+1
140 FOR z=1 TO l: GO SUB 25: LE
T y=d: GO SUB 20: LET s$=c$: GO
SUB 30: LET y=d: GO SUB 20: LET
b$=c$: GO SUB 35: LET y=d: GO SU
B 120: LET d$=c$: PRINT z;
150 PRINT TAB 11-LEN s$;s$;TAB
21-LEN b$;b$;TAB 31-LEN d$;d$
160 NEXT z

```

Depreciation Calculations Options

1. Straight-Line
- >> 2. Sum-of-Years
3. Double-Declining
4. Compare methods

2. Sum-of-Years Digits Method

Original Cost: 35275
Salvage Value: 3000
Lifetime (yr): 5

Year	Depreciation	Book Value
1	10758.33	24516.67
2	8606.67	15910.00
3	6455.00	9455.00
4	4303.33	5151.67
5	2151.67	3000.00

4. Comparison of all methods

Original Cost: 35275
Salvage Value: 3000
Lifetime (yr): 5-

Yr #	Straight-Line	Sum-of-Years	Double-Declining
1	6455.00	10758.33	12910.00
2	6455.00	8606.67	7746.00
3	6455.00	6455.00	4647.60
4	6455.00	4303.33	3485.70
5	6455.00	2151.67	3485.70

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Musings and Meanderings

Fast Save/Load on the ZX81/TS-1000

After you have hard-wired the shaky connections of its 16K RAMPak and have added on a full-size keyboard, a remaining drawback of using the ZX81-TS1000 for lengthy programs or data files is the slowness of its tape SAVE/LOAD baud rate. One of the best of the FSL (Fast Save/Load) software routines that were written to remedy this problem when the ZX81 appeared in the U.S. was Brad Bennett's ZXLR8, still available on cassette and also on EPROM from Russell Electronics. It is 2K bytes in length and is relocatable in RAM to allow its use with other machine code programs. It will do fast SAVES and LOADs of Basic programs, data, binary, graphics, and hires graphics, as well as providing an index printout of all the programs on tape.

Many other such FSL routines were written in the U.K. and elsewhere during the hey-day of the ZX-81. Some abbreviated ones using 1/2K bytes or less were incorporated as fast-loading headers for game and utility programs. Since such routines must themselves first be loaded at regular speed and occupy RAM space (unless they are on EPROM) which cannot be used for other program data in the limited memory of the ZX81/TS1000, for most purposes the shorter the FSL the better. The following version, some of which has been adapted from such abbreviated routines, occupies only 512 bytes at the top of RAM after loading. It lacks some of the bells and whistles of the

ZXLR8 but does provide a VERIFY mode as well as fast SAVE/LOAD at adjustable baud rates from 1200 to 4800, or about 5 to 20 times faster than normal. If you understand machine code programming, blocks of code may also be saved and loaded by poking various addresses in the FSL routine.

It should be noted that several factors become critical in using any FSL routine. Because the design of the ZX81/TS1000 system utilizes what is essentially an analog or sine-wave signal for its LOAD/SAVE modes rather than a square-wave or true digital form, it is imperative to use a low noise tape with crisp high frequency response, good dynamic range, and no drop-outs. Recorder heads must be kept clean, demagnetized, and properly aligned. The higher the baud rate, the more critical these things and the record/playback level become. If you have been getting dependable loading at normal rate then an increase up to about 10 times normal SAVE/LOAD speed should be attainable with your equipment. With additional noise-eliminating and wave-shaping circuitry, baud rates of 4800 and higher can be achieved with a hi-fi recorder not using auto-level control. The use of the Russell Winky board may also be of help in obtaining good results.

In order to hold the FSL code in a form which will SAVE and LOAD in the normal ZX mode, we need a first-line REM statement 512 bytes in length. The REM-expand-

ing routine which appeared in the May CTM (pg. 62) can easily be adapted to do this, but in FAST mode it is no big deal to key in manually the half-screen of REM characters we need. First, fill 16 lines of a line 1 REM in the editing area of the screen with characters such as "X" and "O", alternating with every fourth line to make it easier to count the lines. Key ENTER, then EDIT to bring this line down into the editing window again. With the shifting of the line number position plus one space occupied by the cursor there should now be 4 characters appearing in the 17th line. Move the cursor past "REM" and insert "123456" and key ENTER again. There should now be 16 filled lines (including 1 REM) plus 9 characters in the 17th line.

POKE 16510,0 to prevent this line being edited again and ENTER an empty 1 REM statement (containing no characters) following what is now the 0 REM statement. Note that this line 1 REM statement cannot be removed once the codes have been PCKEd into the line 0 REM or the system will crash.

Collapse the display file with POKE 16389,0 then CLS, and make a couple of back-up SAVES to tape before going on. POKE 16389,126 then enter NEW to set RAMTOP at 32256. Load the 0 REM and the 1 REM back into the computer and enter the code loader listing (1). Key RUN to start the loader, which will then display a "CONT IF OK" prompt and stop.

Key CONT to commence block 1. CAREFULLY enter the codes from listing (3), reading left to right. The screen display should match the printed listing.

After checking a completed block, if no errors are found key CONT to go on to the next block. If you catch an error as soon as it is printed to the screen, enter "E" to make a correction of that last entry only. Otherwise, if you find an error in the displayed listing after the loader stops at the end of a block, you can repeat all the entries for that block by entering LET N=N-64 then GOTO 180. The exception is the final block 8, which will require making line 20 FOR N=16962 TO 17025 and using RUN to correct any errors found after the block is completed. Again make a couple of backup SAVES to tape before overwriting the loader listing by entering the FSL header in listing (2).

Listing (2) is set up as a fast-loading header to be put on tape in normal mode so it will fast-load the FSL program immediately following it. Note that RAMTOP must be set at 32256 with POKE 16389,126 and NEW before this header listing is entered or loaded. Otherwise it will crash when it is run or an auto starting SAVE of it is made. Enter it below the 0 REM and the 1 REM, then use RUN 150 to SAVE it to tape in auto-starting mode. Key BREAK at the prompt if you want to make more than one SAVE of it or if you want to load one of your normal speed programs then re-SAVE it in FSL mode.

Once the FSL header has been run and the prompt is displayed, it has moved its machine code routine above RAMTOP where it will no longer be affected by NEW, CLEAR, or the loading of other listings. From this working location it may be called up for fast SAVE, LOAD and VERIFY until a power-down occurs or it is overwritten by other machine code. Try loading in a short program that has been saved at normal speed. If it loads in an auto-starting mode, stop it, then be sure the computer is in the FAST mode which is required always for using FSL. POKE 16417,20 to set at 10X normal speed. It is good

practice to note this value for each FSL as programs must be loaded back at the same speed in which they were saved. POKE 16389,0 and CLS to temporarily collapse the display file for the shortest possible FSL SAVE/LOAD time.

Now position a tape on which you have previously saved the FSL header so the program you have normally loaded or keyed into the computer may be fast-saved immediately following it. The program nam may be up to 20 characters in length. As soon as you have entered PRINT "SNAME";USR 32256 start the tape in record mode, during the 5-second silent lead-in. A recorder which has a PAUSE mode makes this much easier to do. During the SAVE mode, the screen will be filled with thin horizontal bars.

To verify a program still in the computer as saved in FSL mode, key FAST, then POKE 16417,20. Enter PRINT "VNAME";USR 32256 as a direct command during the 5-second lead-in as the saved program is played back. Note that the verify "VNAME" must be identical to the save "SNAME" except for the command-code letter. A successful verify will show a report code of V/O at the bottom of the screen.

To make a test from scratch, power-down and power-up the computer. POKE 16389,126 and NEW. Enter LOAD "" and start playing the tape at the FSL header. When the prompt is displayed, continue the play back of the fast-saved program until the 5-second silent leader commences before pressing "L" (or any key except BREAK). An ear-plug type ear-phone in a "Y" adaptor for the EAR socket, or an LED shunted across the two EAR cable leads makes this much easier to monitor. If FSL loading is taking place, the screen display should be filled with short, thin horizontal lines and dashes.

The program name will be displayed if a successful loading takes place. If not, or if a "T" error-code is displayed, repeat the process with a slightly lower playback volume setting than that normally used. It may be necessary to delay keying "L" for a couple

seconds during the 5-second lead-in to prevent any spurious noise from triggering an error. The glitch of starting the recorder will usually cause a loading error so it must be skipped over during playback. To load a fast-saved program while the FSL routine is in residence above RAMTOP but without using the FSL header, key FAST and POKE 16417,20 before entering PRINT "LNAME";USR 32256 during the 5-second lead-in of the program playback. PRINT "L";USR 32256 will also work.

To experiment with an auto-loading FSL header, delete the line 110 prompt and change line 120 to PAUSE 30. Start the FSL save of your main program as close as possible to the end of the FSL header. Adjust the PAUSE interval if necessary so any recorded buzz or glitch is skipped over before the FSL routine goes into LOAD mode. To try other FSL speeds, POKE 16417 with values from 1 (fastest or about 20X normal) to 40 (slowest or about 5X normal). LOADs must be set for exactly the same values as the baud rates with which the respective FSL programs are SAVED.

FSL saving and loading of blocks of machine code or data requires poking the starting and ending addresses of the block into four memory locations in the FSL routine residing in its working location above address 32256. One restriction which must be observed is that the code block which is to be fast-saved and loaded cannot overwrite or occupy the same location as the FSL routine. If it is necessary to reserve a space for code to be loaded into, after the FSL routine is in-residence above RAMTOP 32256 the RAMTOP may be lowered further and NEW used without affecting the FSL code.

The code block may include all of RAM from the start of the display file upward, if desired. The low byte of the block's starting address is poked to 32258 and the high byte to 32259. The low byte of the ending address is poked to 32260 and the high byte to 32261. The FSL SAVE is made with PRINT "MNAME";USR 32256. After RAMTOP has been set to

```

1 LISTING (1)
2
3 0 REM (512 BYTES)
4 10 REM
5 5 LET B=0
6 10 LET T=0
7 20 FOR N=18814 TO 17025
8 30 IF T=32 THEN LET T=0
9 40 IF (N-2)/64-INT ((N-2)/64)=
10 0 THEN GOSUB 150
11 50 INPUT P$
12 60 IF CODE P$>37 THEN LET N=N-
13 1
14 70 IF CODE P$>37 THEN LET T=T-
15 4*(T>0)+28*(T=0)
16 80 IF CODE P$>37 THEN GOTO 50
17 90 POKE N,VAL P$
18 100 PRINT TAB T;P$;
19 110 LET T=T+4
20 120 NEXT N
21 130 PRINT " TO CORRECT BLOCK 8
22 CHANGE TO:20 FOR N=18982 TO 17
23 025 THEN RUN "
24 140 STOP
25 150 PRINT " LET N=N-64 THEN GOT
26 0 160 FOR " BLOCK REPORT" "" "" ""
27 Y CONT IF OK"
28 160 STOP
29 170 LET B=B+1
30 180 PRINT "BLOCK ";B;" KEY B F
31 OR ERROR"
32 190 RETURN

```

```

      LISTING (2)

      0 REM      (512 BYTES)
      10 REM
      20 LIGHT IF 00000000,10000000
      30 LIGHT IF 00000000,10000000
      40 DOKEY 10000000,10000000
      50 DOKEY 10000000,10000000
      60 DOKEY 10000000,10000000
      70 DOKEY 10000000,10000000
      80 DOKEY 10000000,10000000
      90 DOKEY 10000000,10000000
      100 BRND USR 100000
      110 DOKE 100000,100000
      120 PRINT "KEY L DURING 5-SEC L
      130 REM
      140 BRND 404
      150 OR
      160 PRINT "L";USR 00000
      170 DOKE 100000,0
      180 OR
      190 BRND "7L0"
      200 DOKE 100000,100
      210 GOTO 10

```

BLOCK 1									
2005	32	4	42	4	54	8	8		
303	8	126	34	24	35	54	30		
35	8	236	33	127	54	1	30		
1	237	176	31	195	3	33	8		
32	24	203	8	9	8	8	1		
31	8	33	8	126	17	3	8		
25	25	34	123	54	25	35	235		
42	12	54	35	126	112	35	237		
BLOCK 2									
176	254	58	42	5	254	49	42		
8	24	46	62	54	24	1	175		
42	123	54	229	1	35	8	197		
229	111	24	91	53	217	203	19		
211	255	48	54	203	205	24	195		
203	157	203	155	24	42	241	203		
93	202	245	229	15	14	3	24		
98	24	115	21	32	99	203	221		
BLOCK 3									
24	95	203	93	32	51	121	217		
79	139	31	95	167	31	71	167		
31	136	68	4	79	128	87	217		
30	1	14	3	203	141	24	51		
125	238	18	32	221	121	217	184		
56	179	185	55	175	217	29	48		
124	207	14	254	10	55	4	38		
12	203	167	203	229	62	57	245		
BLOCK 4									
95	71	219	254	23	55	167	16		
249	29	32	245	37	32	241	207		
203	14	5	125	249	254	28	35		
250	203	77	229	19	203	181	32		
154	55	198	12	219	254	23	55		
133	16	243	124	24	197	24	51		
217	225	193	129	177	123	32	19		
225	8	78	35	70	35	94	35		
BLOCK 5									
85	235	95	125	217	203	117	42		
3	167	329	18	123	217	119	35		
11	197	229	217	24	254	217	124		
254	54	329	125	125	254	54	55		
203	207	38	254	55	48	25	254		
50	48	5	207	32	207	13	209		
201	42	123	54	43	70	43	78		
43	55	43	94	95	105	24	7		
BLOCK 6									
33	4	54	235	42	20	54	1		
8	8	197	167	207	32	229	213		
58	77	427	123	54	113	35	112		
35	115	35	114	1	34	8	197		
42	123	54	229	22	5	1	8		
255	11	128	177	32	251	21	32		
245	45	5	14	13	131	32	115		
203	93	32	128	203	55	42	5		
BLOCK 7									
33	113	2	11	128	177	32	251		
225	94	193	129	177	48	58	35		
11	197	229	55	45	8	24	18		
217	24	148	14	16	254	128	229		
23	23	71	15	254	35	24	203		
8	53	203	195	32	44	77	5		
203	21	211	55	33	54	87	219		
55	16	254	5	5	15				

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The Superior Access Corner

Introduction

A Real BIG Hello to all of my fellow CTM readers. This is the first article in a column series for TOTAL Continuous Support for your Sinclair Users out there who are all wondering what's left in support for this line of superior computers. How to keep getting what you need. Also, what's still available NOW from Sinclair and how to integrate it with the computers you may already have. This includes your Timex models. The subject matter will be covered in topics. The coverage will be of general nature, and also will focus on Amateur Radio Computing and the brand new opportunities now emerging for implementing these computers with packet radio. I will always first answer all or any of the questions sent in to me or CTM by readers and respond to their comments and requirements.

Paper is no Problem

2040 Printer Paper:

You can buy it anywhere in the gold ol' U.S.A. over at your local Radio Shack store. They sell this thermal printer paper, 2 rolls in a package for just \$3.95! The Stock # 26-1332. It's the identical paper, made for the small, now discontinued TP-10 printer. It's an off the rack item at most Radio Shack computer centers, but not kept as regular stock at the general Radio Shack store. They can order it with their weekly order for you though, and have it waiting for you to come on in and pick up within 2 weeks tops. Now considering how you can copy the screen over 600 times per roll, it's still a real best bargain!

A Supply Special

Write to 21st Century Electronics, 6813 Polk Street, Guttenburg, NJ 07093. Dept CTM Attn: Bill Stoecher. Now here's one of the nicest guys in the world. Bill had a whole Timex Computer Center running back when the Timex was going like a freight train. He's a baker by trade. He sold out the bakery operation in the commercial building around his house when the computer center was booming and had rooms with every model all set up and running. He was the first to have the Aerco Disk drives for the 1000 and 2068 models. Right now he's got 3 giant rooms filled to the gills with all kinds of stock and goodies that built up from other dealers and suppliers that sold out what they had left, the things that TS users always dreamed about getting. He needs to clean up the mess, as the saying goes, because he's now renting out some of the space to a company for an office. PLUS, he's getting ALL of the leftover software that was in the Timex and Sinclair warehouses to sell with this big stock liquidation for just a couple of bucks each! I'm talking about almost all of the original programs that went from \$20 to \$60 in the stores. Boxes and boxes to add to his choked up collections! So here is YOUR Big Chance to get the good programs and hardware stuff that you always really wanted but figured it's just too late to ever be able to get anymore, for almost nothing! I've talked him into making a list up for all of the CTM readers who send him their names. It's tough to be in a business when nobody buys anything anymore. You just go out and get a regular job after awhile again and let the

business with all of that dynamite stock collect dust and eventually die. Now make sure you put down dept. CTM or say you read about it in CTM so you can get this special support list and prices that Bill is going to spend time making ready to send you! What's in it for me? The plain and simple satisfaction of helping a friend and seeing Bill smile again! AND: Knowing that there's Happy TS users out there STILL blowing and going on the superior computer THAT JUST WOULDN'T DIE ! ! EVEN years after the division of the company that sold them in the country did!

Huging the Technology

I can understand why all you TS programmers won't let up. It's because your programming with Sinclair superiority, that's WHY! Any of you readers who never had a TS computer don't have any idea what this is! The whole spectrum of Sinclair superiority will be completely covered in it's own article for you next month, but for now, here's just one most important Real Big Example in a little story. I used the first TS 1000 & 1500 like mad. I had an A/D converter that would let you read small voltages with the computer out to 8 decimal places. I believe it was called the VOTEM. I coupled this Votem to an Anemometer that was reading the wind speed. So now I'm measuring the wind speed out to 8 places! The nearest ten thousandth of a Mile Per Hour (MPH). This is accuracy that is so accurate that you almost have no use for it! I built up programs to store up all of the readings that the program took every 2 seconds into big arrays. Then I'd plot out and

COPY a chart recorder display onto the little 2040 printer, to finally be performing the function of my 4600 Rustrack mechanical chart recorder electronically with this computer (That's The original goal).

Now that alone is a REAL big achievement, to eliminate the mechanical needle and hammer that pounded it against the paper twice a second to mark the readings, which always ended up getting struck, on a \$600 machine, and be able to do all of that with only \$125 worth of hardware and a little program, but that's still not my one big point about the superiority in this little computer. The greatest thing in the world was to be able to go over to the computer while it's busy collecting up all of this data and to be able to break right on into the program, change some of the program lines or maybe add a little routine to plot or print out all of this data differently, **WITHOUT LOSING A SINGLE BYTE OF ANY DATA!!** This is something that the other computers just simply can't do, PERIOD!! Any time you edit or add a line in a program in a computer with MS-DOS basic, (an APPLE or an IBM etc.) whatever data there is in variables or arrays at the time that has been generated with the program is now a gonner - It's history! That's just one of the many Sinclair superiority benefits that are the real important reasons why these little computer will ALWAYS be used! Editing and debugging without loss of variables makes program development a total breeze on them!

The Drop the Name Syndrome

Fellow users, you must understand that the computer you are raving about and calling a Timex all the time is in reality just a SINCLAIR computer. Timex is just the company that bought the rights to sell it here in this country as a Timex/Sinclair for awhile. Sinclair Research Laboratories (called SRL from this point on) are the ones who REALLY invented and pioneered this glorious operating system. Now that Timex has left the picture you can just call it a Sinclair for what it really is, which is what most people have chosen to do. The name TIMEX is MUD to people who have no idea what the computer can really do and never owned one. (your status quo computer user). They think anything with the name

Timex or Sinclair on it is just some cheap little toymex game kiddy computer that's incapable of being programmed and doing any kind of serious business. **THIS IS THE OPPOSITE OF THE TRUTH!!** Timex wasn't fair to the people using the computers, nor were they fair to Sinclair, by just walking away from it when all of the good hardware and disk drives were just about to go into production. The name Sinclair is all scarred from this also, this means that any computer called a Sinclair has as much chance of being sold to people who don't know what the computer is as Frankenstein has in becoming Miss America!! Timex never tried to market the Sinclair computer based on it's superiority, they just put it out into the marketplace as if it was another wrist-watch and the people had to find out all about the special power and beauty of the operating system inside the computer after they started using the computer. Nice surprise, but lousy marketing, which is what really sells computers, not revelations by the users who just share them amongst themselves and literally hug this technology in seclusion.

I worked for a couple of years doing applications programming on IBM pc's tied into a Novell network. While eating lunch one day I said to my programming buddies there: "Imagine if you will, have a computer where you could just break into a program that's running in basic or even GOTO an area in the program that would then save it, saving the whole program. ALL the variables and data in the program at the time, EVEN the entire current screen that's being displayed, and when you load it all back into the computer you actually could pick up the running of the program right from where you had left off, having ALL of the operating system, the screen and programs loaded right back intact!!" One of the guys there looked at me and exclaimed "Yea sure! Now that's a real dream! To be able to have a computer that could really DO something like THAT!!"...

"OH NO IT'S NOT!" I told him, "That's NOT a dream!! That's a SINCLAIR! A computer which DOES EXACTLY THAT!!"... Now this guy was TOTALLY blown away by this FACT. When he finally believed it, and me; he never laughed at 'em or called 'em stupid little toymex computers EVER again!

OK, the QL's Here!
You can come out of the coma now!

Over loyalty. There exists a whole slew of users all who have SRL 1000, 1500, and 2068 models who went into shock with their computer the day Timex stopped selling them and they still haven't come out of the coma! So now what your doing is staying in a technological coma with a computer as if it's the last of the Mohegans! But it's NOT! SRL (SINCLAIR) sold the manufacturing rights for their whole line of computers in April. This is totally fantastic news! Rather than phase out their whole line of micros and leave the user base hanging to dry up and die, other companies, including the Timex division in Portugal, will continue to produce this line of products and supply the world! Remember there are nearly 7 million of these Sinclair computers in place around the World, that's more than double the amount of IBM PC's! So now Sinclair is in a position that's EXACTLY like Microsoft here in the U.S. Just design the computer's operating system, and let other companies handle the manufacturing, distribution, and marketing of the computer to the people. How many computer companies make computers that run MS-DOS? Dozens! Yet Microsoft, the people who make MS-DOS do not even make a computer. This is also the New Sinclair Research Labs position in the computer industry!

The QL is a case in point. It's the only other highly sophisticated business computer aside from the IBM PC that right now is being cloned and produced by other companies! With 100% original compatibility and superior enhancements also incorporated by the original designers. And these clones are much MORE expensive than the original, not less, since there's more built into them, even 20 Megabyte hard drives!

The QL is a Virtual Memory (VM) Multitasking Personal Mainframe (PM) Computer that you can get for under \$275. right now! It sounds like a joke but it's a fact! It's just that it's so far ahead of anything else on the market and so inexpensive that people with other computers that never heard of it can't believe this, so they think that any of the dealers who are selling in the computer shows are just used car salesman with a part time job hyping

away on the product, when in reality they're watching a fanatic QL programmer trying to turn on the world to this amazing instrument that is the equivalent of a mainframe condensed down into a keyboard. Now \$275. is almost what some of you original Sinclair (Timex) users paid for your first TS 1000 and 16K rampack setup four years ago! But on the QL you can multitask as many programs as you want on it and even do a DIR of the drives at the same time while all of the other programs are all running! You can have up to 360 windows open as channels in EACH of the programs too! Compared to a limit of 8 on an Atari ST in GEM that everybody is raving about and thinks is so advanced. So come on all you Sinclair Die Hards, wake up and take your Quantum Leap now! All I ever see is TS users who say they are gonna get one soon. If you don't wake up and get it now while there's all this good availability and reduced pricing going on, then it probably won't be here when you finally do want it. Remember, it's tough to stay in business when nobody buys anything. QL dealers aren't gonna just sit back and wait for TS 1000 and 2068 users to finally come around for one in a couple of years! They're not in business selling this machine because they won the lottery and haven't got anything better to do! They're trying to sell the most sophisticated, lowest priced Mico of the 20th Century! One that totally outsmokes all the competition the way the Space Shuttle leaves behind the 747. If the users don't first support the dealers and make an effort to get the product, then dealers can never maintain any support for the users and still be there for you in the long run.

The QL's going right on Packet

Here's exclusive good news. The Quantum Leap Micro is being implemented onto Packet Radio. The first tests in the country, possibly in the world that I know of are being conducted by K5XY. That's Alex Burr, the man with definite Packet Mania! He is the publisher of *QZX Journal*, you may have seen his big ad here in CTM. Look him up. He's using the QL with a MODAPTOR. This is a universal MODem hardware adAPTOR which comes complete with cabling that matches the computer to either the split baud rates in use in Europe (75/1200

Baud) or works straight up here in single baud rates from 75 to 9600. What's more, it even comes complete with a windowing terminal program too! It retails for only \$70.00 complete. You can even get it for only \$45 though from the Quantum Computing Discount catalog. (Look up their ads here in CTM or write: Box 1280, Dover, NJ 07801, (201) 328-8846. It supports the QL's multitasking and you can jump out of it while it's running and run other programs, even format a drive, etc. All thanks to the power of QDOS. I'm dying to hear from him again. I want to find out how it worked with his TNC. I hope he can give me enough information to get a review of his session and the Modaptor here in CTM.

The Packet King stands up and takes the Quantum Leap

An official review of the QL's capability for Packet and a COMPLETE review of the computer and the Modaptor for packet implementation will now be performed by the staff and amateurs here

at CTM. When Chet and the amateur reviewers of the CTM staff found out about all of this personal mainframe power and windowing terminal program and channel access capability that's all locked up inside the QL and available for under \$300, it seems they just couldn't wait until they got one for review. They should be on line connecting up a storm by the time you are reading this. They are even going to be dumping the text files and copies of the contacts over to a Macintosh through the serial ports, which have the same plugs and protocols on both computers! The QL supports file names up to 36 characters long, so don't get too wordy now fellas.

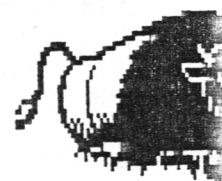
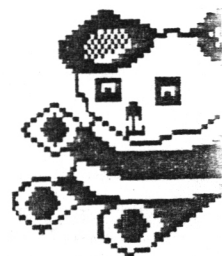
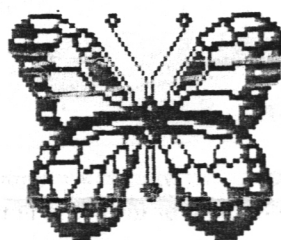
Now write me with your comments and any suggestions for this new column. Next month, I'll try to go over the SRL Operating Systems with a fine tooth comb.

Take care...

Frank Toemay

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ATTENTION LIST Subscribers: When it is time to renew your membership, (look at your mailing label), please make out your check to Robert Gilder, LIST President or to Robert Malloy, Treasurer. PLEASE DO NOT MAKE OUT YOUR CHECK to LIST. Our bank requires a large amount of money in a savings account in order to cash checks. THANK YOU!

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USA postage \$16.00

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Bob Malloy, LIST Treasurer

WHO'S ONLINE

Some of us here at LIST have been wondering how many of our members are using modems with their Sinclair computers. It would be helpful if those of you who are into communications would take a few minutes to let us have the following info.

COMPUTER USED
COMMS PRGRM
BAUD RATE
EMAIL ADDRESS.....
ONLINE SERVICES USED.....
SUGGESTIONS FOR LIST.....

You can reply to me at the following addresses:

bmalley@idt.net

Or, you can use our snailmail address.

Bob Malloy

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